Appendix I

THE SILVER PROCESS CLAIMS DO NOT PATENTABLY DISTINGUISH FROM THE DISCLOSURE OF THE KRAUSS PATENT (FIG. 1), TAB 18, OL. 8-F, AND THE DISCLOSURE OF THE RAK PATENT, TAB 19, OL. 8-G.

We here compared typical claims of the first and second Silver patents with the disclosures in Krauss (Fig. 1), Tab 18, OL. 8-F, and Rak, Tab 19, OL. 8-G.

COMPARISON WITH KRAUSS TAB 18, OL. 8-F.

Claim 7 of Silver patent Tab 12, S.B.	**Krauss (Tab 18, OL. 8-F) Fig. 1 disclosure.**
1. A diffusion process, which comprises the movement of divided material through a confined treatment zone having a succession of treatment stages,	1. A diffusion process, which comprises the movement of divided material through a confined treatment zone having a succession of treatment stages (Tr. 216),
2. feeding divided material into one end of said confined zone,	2. feeding divided material into one end of said confined zone (Tr. 216),
3. flowing liquid by gravity in a progressive movement through the succession of treatment stages along a course generally countercurrent to the divided material travel,	3. flowing liquid by means of pumps in a progressive movement through the succession of treatment stages along a course generally countercurrent to the divided material travel (Tr. 216),
4. introducing the liquid into the respective treatment stages near one end of each stage and in the path of divided material moving into said stage,	4. introducing the liquid into the respective treatment stages near one end of each stage and in the path of divided material moving into said stage (Tr. 218),

Note: It will be noticed that in Krauss (Fig. 1) the liquid is discharged into the top of each cell and the cossettes drop from a higher point into the cell.

5. directing the divided material so intermixed with liquid through substantially the entire treatment stage in an action in which the liquid moves concurrently with the travel of divided material,

6. elevating the divided material out of the liquid at the opposite end of said stage in an action in which the elevating movement is utilized to transfer the divided material from said stage to the next treatment stage while draining liquid back through the divided material during such elevation and before it is again brought in contact with the liquid at the point of intermixture in the next treatment stage,

5. directing the divided material so intermixed with liquid through substantially the entire treatment stage in an action in which the liquid moves concurrently with the travel of divided material (Tr. 218),

6. elevating the divided material out of the liquid at the opposite end of said stage in an action in which the elevating movement is utilized to transfer the divided material from said stage to the next treatment stage while draining liquid back through the divided material during such elevation and before it is again brought in contact with the liquid at the point of intermixture in the next treatment stage (Tr. 217),

Note: As Mr. Shafor explained at Tr. 217, the transfer mechanism of the Krauss Fig. 1 disclosure picks up the cossettes on the outside of a traveling screen and elevates them out of the liquid, so as to transfer the cossettes from one stage to the next treatment stage. During this transfer to the next treatment stage, the cossettes are, of course, drained through the screen filter medium. At the same time the rising liquid level at the discharge end of the cell drains through the screen filter medium and discharges with the liquid which is drained from the cossettes for transfer to the succeeding cell. This draining is effected, of course, before the cossettes are again brought in contact with the liquid at the point of intermixture in the next treatment stage.

Notice that the element 6 (above) in the claim does not exclude the use of a filter such as shown by Krauss, nor does it exclude the use of differential pressure in effecting drain.

7. then subjecting said liquid to a screening action at a point adjacent to but below the liquid level before the liquid passes from said treatment stage to the next stage along its countercurrent course,	7. the liquid is subjected to a screening action at a point adjacent to but below the liquid level before the liquid passes from said treatment stage to the next stage along its countercurrent course.

Note: It will be noticed that in Fig. 1 of Krauss, as explained by Mr. Shafor at Tr. 217-218, the lower part of the filters extend below the liquid level so that the liquid may pass up through the filter to discharge. It is, of course, screened by the screen filter medium which maintains the cossettes on the exterior thereof, but permits the liquid to pass therethrough.

8. and discharging the liquid and divided material separately from the treatment zone.	8. and discharging the liquid and divided material separately from the treatment zone. (Tr. 218.)

Note: From the foregoing it is obvious that this Silver claim reads directly on the Krauss Fig. 1 disclosure, except that the liquid does not flow by gravity between the cells.

Thus, the only distinction between the claim and the Krauss (Tab 18, OL. 8-F) Fig. 1 disclosure is the flowing by gravity from cell to cell. In that gravity flow and pumping are equivalents, the claim does not patentably distinguish from the Krauss Fig. 1 disclosure, and in that the claim does not exclude the use of a filter such as

shown in Krauss (Tab 18, OL. 8-F) Fig. 1, it would include such a transfer construction. Consequently, the claim is fully met by the Krauss (Tab 18, OL. 8-F) disclosure and it does not patentably distinguish therefrom and is invalid.

Claim 2 of Silver patent Tab 12, S.B.	Krauss (Tab 18, OL. 8-F) Fig. 1 disclosure.
1. Diffusion apparatus, comprising a series of treatment cells interconnected for the progressive movement of divided material therethrough,	1. Diffusion apparatus, comprising a series of treatment cells interconnected for the progressive movement of divided material therethrough (Tr. 216),
2. a feed inlet for divided material at one end of said apparatus,	2. a feed inlet for divided material at one end of said apparatus (Tr. 216),
3. conveyor means in each said cell for imparting said progressive movement to divided material,	3. conveyor means in each said cell for imparting said progressive movement to divided material (Tr. 216),

Note: Krauss (Tab 18, OL. 8-F) shows a scroll type of conveyor, while Silver shows a continuous chain type. However, the claim makes no distinction between the two. It is submitted that both are "conveyor means".

4. a plurality of conduit members arranged with each member extending between two cells of the series to impart a gravity flow of liquid in a direction generally countercurrent to the travel of divided material through the apparatus, the outlet of each conduit member being positioned adjacent the divided material inlet end of each cell and the intake of each said conduit member being ad-	4. conduit members extending between two cells of the series with an intervening pump to impart a flow of liquid in a direction generally countercurrent to the travel of divided material, the outlet of each conduit member being positioned adjacent the divided material inlet end of each cell and the intake of each of such conduit being adjacent the divided material discharge end of a preceding

jacent the divided material discharge end of a preceding cell, whereby the liquid is caused to flow concurrently with the divided material throughout substantially the entire length of each cell,

cell, whereby the liquid is caused to flow concurrently with the divided material throughout substantially the entire length of each cell (Tr. 216-218),

Note: The conduit members in the Krauss (Tab 18, OL. 8-F) disclosure are the fluid conductors between the interior of the filter in one cell and thence through a pump into the upper end of the succeeding cell, except that a pump is included by Krauss and not a gravity flow. The only distinction between the two is the provision of pumping in lieu of gravity flow. This difference is an immaterial one, not producing a different result, and is not a patentable distinction.

5. said conveyor means including apertured members and a portion of said means extending above the level of liquid adjacent the discharge end of each cell to elevate divided material out of the liquid and drain the material before it is again brought in contact with the liquid at the point of intermixture in the next treatment stage,

5. said conveyor means including an apertured member with a portion thereof extending above the level of liquid adjacent to the discharge end of each cell to elevate divided material out of the liquid and drain the material before it is again brought in contact with the liquid at the point of intermixture in the next treatment stage (Tr. 217-218),

Note: As testified to by Mr. Shafor (Tr. 217-218), the filter medium of the filter, which is a continuous belt, is foraminous or apertured as is the drum, so that it acts to elevate the cossettes out of the liquid in the cell, drain them and deliver them to the point of intermixture in the next treatment stage by gravity. Obviously, the end-

less belt type of filter is a conveyor means and it does act to convey the cossettes from one cell to the succeeding cell and drain them during that transfer.

6. a screening member disposed in the liquid adjacent the portion of said conveyor means which elevates divided material above the liquid level, said screening member being adapted to screen the liquid before it passes into the conduit intake,	6. a screening member composed of the filter with its screen or foraminous type of endless belt, which filter has a portion thereof disposed in the liquid to elevate the divided material above the liquid level, and the screen effect of the filter is to screen the liquid before it passes into the conduit intake, which is the filter drum having a discharge pipe connected with it as would be obvious to the Court (Tr. 217),
7. a liquid inlet at the end of apparatus opposite from that at which said feed inlet for divided material is positioned,	7. a liquid inlet at the end of apparatus opposite from that at which said feed inlet for divided material is positioned (Tr. 218),
8. and discharge outlets for the liquid and the divided material at the ends of the apparatus opposite their respective inlets.	8. and discharge outlets for the liquid and the divided material at the ends of the apparatus opposite their respective inlets (Tr. 217-218).

Claim 1 of Silver patent Tab 11, S.A.	**Krauss (Tab 18, OL. 8-F) Fig. 1 disclosure.**
1. A diffusion process, which comprises the movement of cossettes or the like through a confined treatment zone having a succession of treatment stages,	1. A diffusion process, which comprises the movement of cossettes or the like through a confined treatment zone having a succession of treatment stages (Tr. 216),

Note: These two elements are precisely the same unless the Court finds that the word "confined" implies gas-tight cover for the treatment zone to confine gases,

etc., as explained in the Silver patent. If the word "confined" is given such an interpretation, then Morton does not include such an element any more than does Krauss.

2. each said stage including alternate downward and upward courses of cossette travel,	2. each said stage including alternate downward and upward courses of cossette travel (Tr. 216),

Note: Each Krauss cell has two side by side vertical legs connected at the bottom just as in the Silver patents so that the cossettes travel downwardly of one leg, then laterally, and then upwardly of the other leg to the discharge end.

3. feeding cossettes into one end of said confined zone,	3. feeding cossettes into one end of said confined zone (Tr. 216),

Note: We again point out that neither Morton nor Krauss has a confined treatment zone in the sense of a complete gas-tight closure for the purposes of the Silver device.

4. flowing juice in a progressive movement through the succession of treatment stages in a separate course generally countercurrent to the cossette travel,	4. flowing juice in a progressive movement through the succession of treatment stages in a separate course generally countercurrent to the cossette travel (Tr. 216),

Note: Notice that this element of the claim does not in terms or otherwise exclude pumps or differential pressure systems.

5. moving said juice into the respective treatment stages at a point intermediate the ends of the downward course,	5. moving said juice into the respective treatment stages at a point at the upper end of the downward course (Tr. 218),

Note: Whether the juice is introduced in Krauss (Tab 18, OL. 8-F) at a point intermediate the ends of the downward course depends upon whether the claim means intermediate the downward course of the cossettes or of the treatment stage. Notice that in Krauss (Tab 18, OL. 8-F) the juice is introduced at the liquid level in the downward course, just as in the Morton machine, but the cossettes drop by gravity from a point higher than the point of introduction of the juice, just as in the Morton machine. Thus, if such element includes Morton, it must include Krauss.

6. directing the juice so intermixed with cossettes through a substantial extent of said treatment stage concurrent with the travel of the cossettes,	6. directing the juice so intermixed with cossettes through a substantial extent of said treatment stage concurrent with the travel of the cossettes (Tr. 218),
7. withdrawing said juice from the succeeding upward course at a point near the top thereof to permit draining of the cossettes before they are again brought in contact with the juice at the intermediate position in the downward course of the next treatment stage,	7. withdrawing said juice from the succeeding upward course at a point near the top thereof to permit draining of the cossettes before they are again brought in contact with the juice at the intermediate position in the downward course of the next treatment stage (Tr. 217),

Note: The juice in Krauss (Tab 18, OL. 8-F) is withdrawn at the conduit at the center of each filter which is approximately at the fluid level in the cell. In Krauss (Tab 18, OL. 8-F) it is drawn by means of a vacuum pump, whereas in Morton, wherein the withdrawal occurs at approximately the same point with respect to the fluid level, the juice discharges by gravity. However, this element of the claim does not exclude by words of lim-

itation the use of suction pumps, nor is it limited to a gravity flow alone.

8. and discharging the juice and cossettes separately from the treatment.	8. and discharging the juice and cossettes separately from the treatment (Tr. 218).

It is obvious from the foregoing that this claim of Silver reads directly on the Krauss (Tab 18, OL. 8-F) Fig. I disclosure, the only difference being in the use of the words "confined treatment zone" and "moving said juice into the respective treatment stages at a point intermediate the ends of the downward course". These two differences are completely immaterial differences and would not be patentable differences, as certainly no invention would be required to put a gas-tight cover over the Krauss machine (if the claim is so limited), or to introduce the juice (instead of into the extreme top of the downward course) at a point slightly below the top of the fluid level.

However, it is noted that the treatment zone of the Morton diffuser is not "confined" in the sense of being gas-tight for the purposes of the Silver patent, and likewise the fluid inlet is at approximately the top of the fluid level in each cell as in Krauss (Tab 18, OL. 8-F) Fig. 1. Therefore, if the claim is construed literally and linguistically, it reads directly on Fig. 1 of Krauss (Tab 18, OL. 8-F) to the exact degree that it reads on Morton and is therefore invalid.

COMPARISON WITH RAK TAB 19, OL. 8-G.

Claim 7 of Silver patent Tab 12, S.B.	Rak (Tab 19, OL. 8-G) Disclosure.
1. A diffusion process, which comprises the movement of divided material through a confined treatment zone having a succession of treatment stages,	1. A diffusion process, which comprises the movement of divided material through a confined treatment zone having a succession of treatment stages (Tr. 218-219),
2. feeding divided material into one end of said confined zone,	2. feeding divided material into one end of said confined zone (Tr. 219),
3. flowing liquid by gravity in a progressive movement through the succession of treatment stages along a course generally countercurrent to the divided material travel,	3. flowing liquid by gravity in a progressive movement through the succession of treatment stages along a course generally countercurrent to the divided material travel (Tr. 224),
4. introducing the liquid into the respective treatment stages near one end of each stage and in the path of divided material moving into said stage,	4. introducing the liquid into the respective treatment stages near one end of each stage and in the path of divided material moving into said stage (Tr. 223-224),
5. directing the divided material so intermixed with liquid through substantially the entire treatment stage in an action in which the liquid moves concurrently with the travel of divided material,	5. directing the divided material so intermixed with liquid through substantally the entire treatment stage in an action in which the liquid moves concurrently with the travel of divided material (Tr. 223-224),
6. elevating the divided material out of the liquid at the opposite end of said stage in an action in which the elevating movement is utilized to transfer the divided material from said stage to the next treatment stage while draining liquid back through the divided material	6. elevating the divided material out of the liquid at the opposite end of said stage and then laterally transferring the divided material from said stage to the next treatment stage while draining liquid back through the divided material during such elevation and be-

during such elevation and before it is again brought in contact with the liquid at the point of intermixture in the next treatment stage,	fore it is again brought in contact with the liquid at the point of intermixture in the next treatment stage* (Tr. 223-224),
7. then subjecting said liquid to a screening action at a point adjacent to but below the liquid level before the liquid passes from said treatment stage to the next stage along its countercurrent course,	7. then subjecting said liquid to a screening action at a point adjacent to but below the liquid level before the liquid passes from said treatment stage to the next stage along its countercurrent course (Tab 19, OL. 8-G),

Note: Screens or "sieves" are provided in the Rak apparatus at the discharge points thereof labeled C2, C3, C4 and C5 in Fig. 1 of the Rak drawings.

8. and discharging the liquid and divided material separately from the treatment zone.	8. and discharging the liquid and divided material separately from the treatment zone (Tab 19, OL. 8-G).

Note: It is seen, therefore, that the Rak disclosure meets every term of every element of claim 7. It is true that Rak intends to and does compress the cossettes during their travel through the treatment stages, but, however, *the claims of the Silver patent do not expressly exclude any such compression and there are no words of limitation in them which confine their scope to a non-compressing conveyance of the cossettes through the treatment stages.*

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*Mr. Silver so testified in his deposition, Plaintiff's Exhibit 20, Tr. 282-283, as follows:

"Q. By the way, in the Rak patent there is a period in its operation that the cossettes are lifted out of the liquid during a transfer from one cell to a subsequent cell; isn't that so? A. I do not recognize that they are lifted out.

Q. It is a fact, however, that there is a lateral transfer—an upward movement of the cossettes and a lateral transfer and a deposit into the top of the succeeding cell? A. That is right."

Claim 2 of Silver patent Tab 12, S.B.	Rak (Tab 19, OL. 8-G) Disclosure.
1. Diffusion apparatus, comprising a series of treatment cells interconnected for the progressive movement of divided material therethrough,	1. Diffusion apparatus, comprising a series of treatment cells interconnected for the progressive movement of divided material therethrough* (Tr. 223),
2. a feed inlet for divided material at one end of said apparatus,	2. a feed inlet for divided material at one end of said apparatus (Tr. 223),
3. conveyor means in each said cell for imparting said progressive movement to divided material,	3. conveyor means in each said cell for imparting said progressive movement to divided material (Tr. 223),
4. a plurality of conduit members arranged with each member extending between two cells of the series to impart a gravity flow of liquid in a direction generally countercurrent to the travel of divided material through the apparatus, the outlet of each conduit member being positioned adjacent the divided material inlet end of each cell and the intake of each said conduit member being adjacent the divided material discharge	4. a plurality of conduit members arranged with each member extending between two cells of the series to impart a gravity flow of liquid in a direction generally countercurrent to the travel of divided material through the apparatus, the outlet of each conduit member being positioned adjacent the divided material inlet end of each cell and the intake of each said conduit member being adjacent the divided material discharge

*Mr. Silver so testified in his deposition, Plaintiff's Exhibit 20, Tr. 281-282, as follows:

"Mr. Mellin. The Rak patent. I will name the steps.

Q. Let us take the steps one by one. Isn't it true, in Plaintiff's Exhibit 3, there is first a continuous diffusion process? A. Yes.

Q. Isn't it true that, in Plaintiff's Exhibit 3, there is disclosed a course of cossette travel which includes upward and downward courses of treatment? A. Yes.

Q. Isn't it a fact that the liquid or juice is introduced in the treatment at an intermediate point in the travel of the cossettes? A. Yes."

end of a preceding cell, whereby the liquid is caused to flow concurrently with the divided material throughout substantially the entire length of each cell,	end of a preceding cell, whereby the liquid is caused to flow concurrently with the divided material throughout substantially the entire length of each cell* (Tr. 224),
5. said conveyor means including apertured members and a portion of said means extending above the level of liquid adjacent the discharge end of each cell to elevate divided material out of the liquid and drain the material before it is again brought in contact with the liquid at the point of intermixture in the next treatment stage,	5. said conveyor means having a portion extending above the level of liquid adjacent to the discharge end of each cell to elevate the divided material out of the liquid and drain the material before it is again brought in contact with the liquid at the point of intermixture in the next treatment stage (Tab 19, OL. 8-G),

Note: The only distinction between these two elements is that the Rak patent (Tab 19, OL. 8-G) discloses a solid scroll and draining would take place between the exterior perimeter of the scroll and the cell wall, while in the Silver patent the flights of the conveyor are perforated. There is, however, no patentable distinction between these two as they both perform the same function in substantially the same manner.

6. a screening member disposed in the liquid adjacent the portion of said conveyor means which elevates divided material above the liquid level, said screening member being adapted	6. a screening member disposed in the liquid adjacent the portion of said conveyor means which elevates divided material above the liquid level, said screening member being adapted

*Mr. Silver so testified in his deposition, Plaintiff's Exhibit 20, Tr. 282, as follows:

"Q. Isn't it a fact that the Rak patent discloses a concurrent or generally concurrent travel of juice and cossettes through each stage of treatment? A. Yes."

to screen the liquid before it passes into the conduit intake,	to screen the liquid before it passes into the conduit intake (Tab 19, OL. 8-G),
7. a liquid inlet at the end of apparatus opposite from that at which said feed inlet for divided material is positioned,	7. a liquid inlet at the end of apparatus opposite from that at which said feed inlet for divided material is positioned (Tr. 223),
8. and discharge outlets for the liquid and the divided material at the ends of the apparatus opposite their respective inlets.	8. and discharge outlets for the liquid and the divided material at the ends of the apparatus opposite their respective inlets (Tab 19, OL. 8-G).

Note: This claim likewise does not exclude from its scope the compressing taper of the Rak cells, and, consequently, would include the Rak disclosure within its scope. The only difference between what the claim calls for and the Rak disclosure are so minor, as above set forth, as to be of no consequence.

Claim 1 of Silver patent Tab 11, S.A.	**Rak (Tab 19, OL. 8-G) Disclosure.**
1. A diffusion process, which comprises the movement of cossettes or the like through a confined treatment zone having a succession of treatment stages,	1. A diffusion process, which comprises the movement of cossettes or the like through a confined treatment zone having a succession of treatment stages (Tr. 232),
2. each said stage including alternate downward and upward courses of cossette travel,	2. the stages of cossette travel in this patent include alternate upward and downward courses of cossette travel; that is to say, one stage is upward and the succeeding stage is downward (Tr. 223),

Note: This is an immaterial difference, however, because having upward and downward courses of cossette

travel in each stage is old in the Krauss prior art patent (Tab 18, OL. 8-F), and no different result is effected.

3. feeding cossettes into one end of said confined zone,	3. feeding cossettes into one end of said confined zone (Tr. 223),
4. flowing juice in a progressive movement through the succession of treatment stages in a separate course generally countercurrent to the cossette travel,	4. flowing juice in a progressive movement through the succession of treatment stages in a separate course generally countercurrent to the cossette travel (Tr. 223),
5. moving said juice into the respective treatment stages at a point intermediate the ends of the downward course,	5. moving said juice into the respective treatment stages at a point intermediate the ends of the downward course,* (Tab 19, OL. 8-G),
6. directing the juice so intermixed with cossettes through a substantial extent of said treatment stage concurrent with the travel of the cossettes,	6. directing the juice so intermixed with cossettes through a substantial extent of said treatment stage concurrent with travel of the cossettes (Tr. 223-4),
7. withdrawing said juice from the succeeding upward course at a point near the top thereof to permit draining of the cossettes before they are again brought in contact with the juice at the intermediate position in the downward course of the next treatment stage,	7. withdrawing said juice from the succeeding upward course at a point near the top thereof to permit draining of the cossettes before they are again brought in contact with the juice at the intermediate position in the downward course of the next treatment stage† (Tr. 223-4),

*Mr. Silver so testified in his deposition, Plaintiff's Exhibit 20, Tr. 282, as follows:

"Q. Isn't it a fact that the liquid or juice is introduced in the treatment at an intermediate point in the travel of the cossettes? A. Yes."

†Mr. Silver so testified in his deposition, Plaintiff's Exhibit 20, Tr. 282-3, as follows:

"Q. By the way, in the Rak patent there is a period in its operation that the cossettes are lifted out of the liquid during

8. and discharging the juice and cossettes separately from the treatment.	8. and discharging the juice and cossettes separately from treatment (Tab 19, OL. 8-G).

Note: Therefore, it is seen that the only difference between the process called for by this claim and the process of Rak (Tab 19, OL. 8-G) is that Rak does not have alternate upward and downward courses in each stage of treatment, but the stages themselves are alternately upward and downward as admitted by Mr. Silver.

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a transfer from one cell to a subsequent cell; isn't that so? A. I do not recognize that they are lifted out.

Q. It is a fact, however, that there is a lateral transfer—an upward movement of the cossettes and a lateral transfer and a deposit into the top of the succeeding cell? A. That is right."

Appendix II

THE DISCLOSURE OF THE NEUFELDT (TAB 16, OL. 8-D) PATENT AS COMPARED WITH THE ACCUSED MORTON BATTERY.

The Accused Morton Battery.	The Neufeldt (Tab 16, OL. 8-D) Disclosure.
	(See Tr. commencing page 207.)
The accused Morton battery is constructed and operates as follows:	The battery shown in the Neufeldt patent is constructed and operates as follows:
1. A plurality of separate horizontally disposed cells through which the cossettes and juice travel generally horizontally from one end of the cell to a point short of the other end,	1. A plurality of separate horizontally disposed cells through which the cossettes and juice travel generally horizontally from one end of the cell to a point short of the other end,
2. the direction of the travel of the juice through the entire machines is generally countercurrent to the direction of travel of the cossettes,	2. the direction of the travel of the juice through the entire machines is generally countercurrent to the direction of travel of the cossettes,
3. the cossettes are introduced into one end of the machine and travel in a generally horizontal sinuous course successively through the cells from one end of the machine to the other,	3. the cossettes are introduced into one end of the machine and travel in a generally horizontal sinuous course successively through the cells from one end of the machine to the other,
4. the juice is admitted at the end of the machine opposite to that into which the cossettes are introduced and travels in a sinuous course successively through the cells from one end of the machine to the other by gravity,	4. the juice is admitted at one end of the machine opposite to that into which the cossettes are introduced and travels in a sinuous course successively through the cells from one end of the machine to the other by gravity,
5. the direction of travel of the juice and cossettes is con-	5. the direction of travel of the juice and cossettes is con-

current and generally horizontal throughout the major portion of each cell,

6. after traveling generally horizontally through a major portion of each cell the cossettes are elevated by a rotating mechanism to the adjacent end of the succeeding cell and deposited in such cell by gravity,

current and generally horizontal throughout the major portion of each cell,

6. after traveling generally horizontally through a major portion of each cell the cossettes are elevated by a rotating mechanism to the adjacent end of the succeeding cell and deposited in such cell by gravity,

Note: The rotating means in Neufeldt is a screw conveyor, the lower end of which projects into the cell and the upper end of which overlies the end of the succeeding cell (Tr. 208).

7. a draining action of the cossettes is effected during the transfer of the cossettes from one cell to the succeeding cell, the drainage draining back into the cell from which the cossettes are removed,

8. each cell has a rotating, propelling and agitating means revolving on a horizontal axis extending longitudinally of the cell to move the cossettes horizontally therethrough and to rotatively agitate them in the juice. This means is a ribbon type of screw conveyor,

9. each cell has a rotating member for engaging the cossettes in the cell and elevating the cossettes above the fluid level and transferring the cos-

7. a draining action of the cossettes is effected during the transfer of the cossettes from one cell to the succeeding cell, the drainage draining back into the cell from which the cossettes are removed,

8. each cell has a rotating, propelling and agitating means revolving on a horizontal axis extending longitudinally of the cell to move the cossettes horizontally therethrough and to rotatively agitate them in the juice. This means is a helical conveyor not shown whether it is a solid or interrupted or ribbon type,

9. each cell has a rotating member for engaging the cossettes in the cell and elevating the cossettes above the fluid level and transferring the cos-

settes to the succeeding cell into which they drop by gravity,	settes to the succeeding cell into which they drop by gravity,
10. the cells are arranged at successively higher levels and the travel of the cossettes is from the cell of the lowest level through the succeeding cells in general up-hill fashion,	10. the cells are arranged at successively higher levels and the travel of the cossettes is from the cell of the lowest level through the succeeding cells in general up-hill fashion,
11. the juice is introduced in the cell of highest elevation and travels successively in a down-hill direction through the cells of lowest elevation by gravity,	11. the juice is introduced in the cell of highest elevation and travels successively in a down-hill direction through the cells of lowest elevation by pumps, although the flow through each individual cell is by gravity,
12. the introduction of the fluid in each cell is at substantially the fluid level in the cell and the outlet or discharge from the cell is just slightly below the fluid level in the cell,	12. the introduction of the fluid in each cell is slightly above the fluid level in the cell and the outlet or discharge from the cell is just slightly below the fluid level in the cell,
13. the cossettes and the juice are separately discharged from the machine,	13. the cossettes and the juice are separately discharged from the machine,
14. there is no recirculation for heating purposes of the juice in each cell.	14. there is a partial recirculation of the juice in each cell for the purpose of temperature control.

Note: As Mr. Shafor testified (Tr. 209), recirculation would not affect the diffusion process.

Appendix III

THE DISCLOSURE OF THE KRAUSS (TAB 18, OL. 8-F) PATENT (FIG. 2 THEREOF) AS COMPARED WITH THE ACCUSED MORTON BATTERY.

This prior patent (Fig. 2) discloses a continuous diffusion process and apparatus.

The Accused Morton Battery.	The Krauss (Fig. 2) (Tab. 18, OL. 8-F) Disclosure.
	(See Tr. commencing page 215.)
The accused Morton battery is constructed and operates as follows:	The battery shown in Fig. 2 of the Krauss patent is constructed and operates as follows:
1. A plurality of separate horizontally disposed cells through which the cossettes and juice travel generally horizontally from one end of the cell to a point short of the other end,	1. A plurality of separate horizontally disposed cells through which the cossettes and juice travel generally horizontally from one end of the cell to a point short of the other end,
2. the direction of the travel of the juice through the entire machine is generally countercurrent to the direction of travel of the cossettes,	2. the direction of the travel of the juice through the entire machine is generally countercurrent to the direction of travel of the cossettes,
3. the cossettes are introduced into one end of the machine and travel in a generally horizontal sinuous course successively through the cells from one end of the machine to the other,	3. the cossettes are introduced into one end of the machine and travel in a generally horizontal sinuous course successively through the cells from one end of the machine to the other,
4. the juice is admitted at one end of the machine opposite to that into which the cossettes are introduced and trav-	4. the juice is admitted at one end of the machine opposite to that into which the cossettes are introduced and trav-

els in a sinuous course successively through the cells from one end of the machine to the other by gravity,

5. the direction of travel of the juice and cossettes is concurrent and generally horizontal throughout the major portion of each cell,

6. after traveling generally horizontally through a major portion of each cell the cossettes are elevated by a rotating mechanism to the adjacent end of the succeeding cell and deposited in such cell by gravity,

els in a sinuous course successively through the cells from one end of the machine to the other under the influence of pumps,

5. the direction of travel of the juice and cossettes is concurrent and generally horizontal throughout the major portion of each cell,

6. after traveling generally horizontally through a major portion of each cell the cossettes are elevated by a mechanism to the adjacent end of the succeeding cell and deposited in such cell by gravity,

Note: The transfer mechanism of Krauss (Fig. 2) includes a conventional form of centrifuge (Tr. 220) into which both the cossettes and the juice are deposited at the discharge end of each cell. This effects drainage of the cossettes and a separation of the cossettes and the juice, and the cossettes are then discharged into a conveyor by which they are elevated and then deposited by gravity into the receiving end of the succeeding cell. The juice meanwhile is directed to its succeeding cell in the general countercurrent concurrent scheme. This is, of course, one mechanical way of effecting transfer and drainage and is merely the equivalent of all other ways in that it produces substantially the same result in substantially the same way; i.e., effecting separation of the cossettes and juice, a drainage of the cossettes and a transfer to the succeeding cell while the juice is directed to its succeeding cell.

7. a draining action of the cossettes is effected during the transfer of the cossettes from one cell to the succeeding cell, the drainage draining back into the cell from which the cossettes are removed,

7. a draining action of the cossettes is effected during the transfer of the cossettes from one cell to the succeeding cell, the drained juice being directed into the succeeding cell, while the cossettes are elevated and deposited by gravity into the proper cell,

8. each cell has a rotating, propelling and agitating means revolving on a horizontal axis extending longitudinally of the cell to move the cossettes horizontally therethrough and to rotatively agitate them in the juice. This means is a ribbon type of screw conveyor,

8. each cell has a rotating, propelling and agitating means revolving on a horizontal axis extending longitudinally of the cell to move the cossettes horizontally therethrough and to rotatively agitate them in the juice. This means is a helical conveyor not shown whether it is a solid or interrupted or ribbon type,

Note: We point out here that the Krauss conveyor and agitator is illustrated as being both a solid scroll conveyor and an interrupted or paddle type of scroll conveyor.

9. each cell has a rotating member for engaging the cossettes in the cell and elevating the cossettes above the fluid level and transferring the cossettes to the succeeding cell into which they drop by gravity,

9. each cell is equipped to discharge the cossettes as well as the juice into a centrifuge to separate the cossettes and the juice, the cossettes being elevated by a rotating scroll and deposited by gravity into the next or succeeding cell,

10. the cells are arranged at successively higher levels and the travel of the cossettes is from the cell of the lowest level through the succeeding cell in general up-hill fashion,

10. the cells are arranged on the same level and the travel of the cossettes is from the cell at one end through the succeeding cells in general horizontal travel,

11. the juice is introduced in the cell of highest elevation and travels successively in a down-hill direction through the cells of lowest elevation by gravity,

12. the introduction of the fluid in each cell is at substantially the fluid level in the cell and the outlet or discharge from the cell is just slightly below the fluid level in the cell,

13. the cossettes and the juice are separately discharged from the machine.

11. the juice is introduced in the cell at the end of the machine opposite the end into which the cossettes are deposited and the juice travels successively and generally countercurrent to the cossettes through the remaining cells but concurrently in the cells with the cossettes under the influence of pumps,

12. the introduction of the fluid in each cell is above the fluid level in the cell and the outlet or discharge from the cell is just slightly below the fluid level in the cell,

13. the cossettes and the juice are separately discharged from the machine.

Appendix IV

THE DISCLOSURE OF THE DOBLER (TAB 17, OL. 8-E) PATENT AS COMPARED WITH THE ACCUSED MORTON BATTERY.

This prior patent, Tab 17, OL. 8-E, according to the evidence commencing at Tr. 210, diagrammatically illustrates an apparatus for diffusing sugar in a continuous diffusing process which, in construction, is substantially the same as the Morton battery, the only difference being that in Dobler the flow of juice is countercurrent in each cell rather than concurrent as in Morton.

The Accused Morton Battery.

The accused Morton battery is constructed and operates as follows:

1. a plurality of separate horizontally disposed cells arranged in parallelism and disposed on successively higher elevations,

2. the cossettes are introduced at the end of the lowermost cell and then successively into each higher cell and travel generally horizontally through each cell and are discharged at the end of the highest cell,

3. the juice is introduced in the end of the highermost cell and travels generally countercurrently to the cossettes throughout the machine but concurrent in each cell,

The Dobler Disclosure (Tab 17, OL. 8-E).

(See Tr. commencing page 210.)

The battery shown in the Dobler patent is constructed and operates as follows:

1. a plurality of separate horizontally disposed cells arranged in parallelism and disposed on successively higher elevations,

2. the cossettes are introduced at the end of the lowermost cell and then successively into each higher cell and travel generally horizontally through each cell and are discharged at the end of the highest cell,

3. the juice is introduced into the end of the highermost cell and travels generally countercurrent to the travel of the cossettes through the cells and travels through each cell concurrently with the cossettes therein,

4. the travel of the juice in its horizontal sinuous course is effected by gravity,

5. after traveling generally horizontally through a major portion of each cell the cossettes are elevated by a foraminous or perforated fork-like member rotatingly mounted adjacent the end of the cell to elevate the cossettes out of the cell and out of the juice therein and deposit the cossettes into the adjacent end of the cell of next higher elevation by gravity,

6. a draining action of the cossettes is effected during the transfer of the cossettes from one cell to the succeeding cell, the drainage draining back into the cell from which the cossettes are removed,

7. each cell has a rotating, propelling and agitating means of the scroll type revolving on a horizontal axis in the horizontal cell and extending longitudinally of the cell to move the cossettes horizontally therethrough and to rotatively agitate them in the juice; this means is a ribbon type of scroll conveyor,

8. each cell has a grid-like rotating member for engaging the cossettes in the cell and elevating the cossettes above the fluid level and transferring the cossettes to the succeeding cell into which they drop by gravity,

4. the travel of the juice in its horizontal sinuous course is effected by gravity,

5. after traveling generally horizontally through a major portion of each cell the cossettes are elevated by a foraminous or perforated fork-like member rotatingly mounted adjacent the end of the cell to elevate the cossettes out of the cell and out of the juice therein and deposit the cossettes into the adjacent end of the cell of next higher elevation by gravity,

6. a draining action of the cossettes is effected during the transfer of the cossettes from one cell to the succeeding cell, the drainage draining back into the cell from which the cossettes are removed,

7. each cell has a rotating, propelling and agitating means of the scroll type revolving on a horizontal axis in the horizontal cell and extending longitudinally of the cell to move the cossettes horizontally therethrough and to rotatively agitate them in the juice; this means is an interrupted type of scroll conveyor,

8. each cell has a grid-like rotating member for engaging the cossettes in the cell and elevating the cossettes above the fluid level and transferring the cossettes to the succeeding cell into which they drop by gravity,

Note: In the Morton machine this element is a rotating fork which is on the same axis or shaft as the scroll agitator and conveyor. In the Dobler patent each cell is fitted with a rotating perforated grid member which revolves likewise about a horizontal axis but which dips into the preceding cell and lifts the cossettes out in a manner similar to that of the Morton fork and then drops them by gravity into the succeeding cell. Although the construction is different in detail, they both accomplish exactly the same purpose in almost exactly the same fashion.

9. the cells are arranged at successively higher levels and the travel of the cossettes is from the cell of the lowest level through the succeeding cells in general up-hill fashion,	9. the cells are arranged at successively higher levels and the travel of the cossettes is from the cell of the lowest level through the succeeding cells in general up-hill fashion,
10. the juice is introduced in the cell of highest elevation and travels successively in a down-hill direction through the cells of lowest elevation by gravity,	10. the juice is introduced in the cell of highest elevation and travels successively in a down-hill direction through the cells of lowest elevation by gravity,
11. the introduction of the fluid in each cell is at substantially the fluid level in the cell and the outlet or discharge from the cell is just slightly below the fluid level in the cell,	11. the introduction of the fluid in each cell is above the fluid level in the cell and the outlet or discharge from the cell is just slightly below the fluid level in the cell,
12. the cossettes and the juice are separately discharged from the machine.	12. the cossettes and the juice are separately discharged from the machine.

Note: *The only difference between the Dobler disclosure and the Morton machine is the fact that in Morton the flow is concurrent in each cell, whereas in Dobler it is*

countercurrent. In all other respects, including all structural respects, the machines are identical. Mr. Shafor at Tr. 214 said the only thing necessary to do to make the Dobler machine a countercurrent concurrent machine is to reverse the discharge and inlet connections between the cells.

In the Supreme Court
OF THE
United States

OCTOBER TERM, 1953

No. .....

OLIVER UNITED FILTERS INCORPORATED,
Petitioner,

vs.

HAROLD F. SILVER (an individual),
Respondent.

BRIEF IN SUPPIORT OF PETITION FOR WRIT OF CERTIORARI.

The writ should issue to restore to the public domain the field of continuous countercurrent concurrent sugar beet diffusion which the Court of Appeals has subjected to the monopoly of the Silver patents Nos. 2,390,131 and 2,468,720. The Court should say whether under the Patent Law:

1. Process and apparatus claims, abandoned in order to distinguish from the prior art, may be restored to the patent grant to support a charge of infringement of a process and apparatus made under such prior art.

2. Process and apparatus claims may not be expanded and sustained upon a doctrine of equivalents so broad as to write into the grant processes and apparatus which are the subject of prior expired patents.

3. Whether the monopoly to a process accorded under one patent can be extended by the subsequent grant of another patent to the same inventor claiming essentially the same process claimed in the first patent and disclosing and claiming essentially the same apparatus disclosed in the first patent and wherein said process claims define the inherent functions of said apparatus.

4. Whether a combination of elements shown to be old by the prior art can be the subject of a valid patent solely by reason of the fact that improvements have been made to one or more of such elements.

5. Whether prior art can be disregarded solely because the processes and apparatus disclosed therein have never been put into commercial use.

6. Whether an old process can be the subject of a valid patent merely by reason of the fact that it can be carried out in modified equipment.

7. Whether the inherent function of a machine can be the subject of a valid process patent.

8. Whether a structure concededly not designed and not developed until years after the filing date of a patent application and in no way disclosed therein can be included within the monopoly granted on a patent resulting from said application.

OPINIONS BELOW.

The opinion of the District Court is reported in 93 USPQ 87. The findings are at Tr. 25.

The opinion of the Court of Appeals for the Tenth Circuit is reported in Tr. 357, 98 USPQ 240, and the judgment appears at Tr. 370.

JURISDICTION.

As noted in the petition, jurisdiction is invoked under 28 U.S.C. 1254.

STATEMENT OF FACTS.

The essential facts are set forth in this petition.

SPECIFICATION OF ERRORS TO BE URGED.

The Court of Appeals erred:

1. In holding valid and infringed any of the claims of the Silver patents Nos. 2,390,131 and 2,468,720, and in affirming the judgment of the District Court with respect thereto.

2. In reading into the claims of each patent the process claims cancelled and abandoned by Silver in the Patent Office proceedings.

3. In determining the question of infringement on the basis of the disclosures contained in the specifications

of Silver's patents, Silver's testimony and the alleged commercial success of the Silver battery rather than on the basis of the claims of the Silver patents.

4. In holding that the apparatus claims of the Silver patent No. 2,468,720 define new and patentable combinations of old elements solely by reason of the fact that some of these elements were improved by Silver and irrespective of the fact that the same combination of elements is shown to be old by the prior art.

5. In giving little or no weight to the prior art by reason of the fact that such art had not gone into commercial use.

6. In including within the monopoly accorded to Silver under his patents a horizontal scroll type cell and battery concededly not designed or developed by him until long after the issuance to him of his patent No. 2,390,131 and until long after the filing date of his patent No. 2,468,720.

ARGUMENT.

REASONS RELIED ON FOR ALLOWANCE OF WRIT.

This Court should grant the writ prayed for because:

I. POSSIBILITY OF CONFLICT REMOTE.

The trial Court has held both patents valid and infringed. The Court of Appeals has affirmed: The possibility of further litigation of these patents is remote for if the judgment of the Court below is allowed to stand, petitioner will be eliminated as a competitor of Silver and Silver has no other competition in this country in

the manufacture and sale of continuous sugar beet diffusers. The cost of a sugar beet diffuser battery of the character under discussion is about $250,000.00 (Tr. 72), and by the very nature of this type of equipment, its development is costly and must be made with the cooperation of a sugar beet mill. The cost to a mill of a shutdown of one of its batteries during a sugar beet campaign would far outweigh the cost of the unit itself, and these two factors would involve a contingent liability on the part of a manufacturer and on the part of a sugar mill so large that no one could well afford to assume it. Prior to the judgments of the trial Court and the Court of Appeals, the monopoly accorded to Silver under his two patents could be determined with a certain degree of accuracy, but in view of these judgments, wherein both Courts have included within the monopoly accorded to Silver a horizontal scroll type of diffuser cell and battery concededly not designed or developed by Silver until long after the issuance of his first patent and not until long after the filing date of the application of his second patent, the public is left without any yardstick for now determining the metes and bounds of Silver's monopoly. Without such a yardstick, it is extremely unlikely that anyone is going to the expense of attempting to develop a competitive structure, and until such competitive structure is developed, there would, of course, be no basis for further litigation involving the two Silver patents. Silver, therefore, is likely to maintain a complete monopoly with respect to continuous diffusers of the concurrent countercurrent type for use in the sugar beet industry, a very important industry in this country, as well as for use in other industries.

These circumstances properly call for the issuance of the writ prayed for. The Court so pointed out in:

Mackay Radio & Telegraph Co. v. Radio Corporation of America (1939), 306 U.S. 86, 89;

Muncie Gear Works, Inc. v. Outboard, Marine & Manufacturing Co. (1942), 315 U.S. 759, 765-6;

Exhibit Supply Co. v. Ace Patents Corporation (1942), 315 U.S. 126, 128;

Schriber-Schroth Co. v. Cleveland Trust Co. (1938), 305 U.S. 47, 50.

In *Mackay Radio and Telegraph Co. v. Radio Corporation of America* (1939), 306 U.S. 86, the Court (p. 89):

> "granted certiorari * * * because of the nature and importance of the case, on a petition which urged as grounds for its allowance that validity and infringement * * * were in doubt and that, as petitioner is the only competitor of respondent * * * further litigation resulting in conflict of decision among circuits, was improbable."

The writ should likewise issue here.

II. IMPORTANT PATENT QUESTIONS HAVE BEEN DECIDED CONTRARY TO THIS COURT'S DECISIONS.

The Court below has applied principles of law which are in conflict with this Court's cases. Extended to other patent causes, the mischief of the principles given sanction by the Court below will be great.

1. Silver, by expressly disclaiming machines and processes in which the cossettes flow through a horizontally disposed treatment zone from the scope of his patent claims in order to avoid the prior art and to obtain the patent, thereby disclaimed and surrendered the right to now contend to the contrary that his patent claims include such machines and processes.

When Silver filed his application for his first patent (Tab 11, S.A), he included twenty claims (pages 18 to 25 of Exhibit C), not one of which was limited to or defined a process in which each treatment stage included "alternate downward and upward courses of cossette travel". Therefore, *as filed,* the claims included not only the *vertical cells, or stages,* as shown and claimed in the patent, but also "horizontal cells *and stages*" as used in the accused Morton battery and disclosed in the prior art patents. The Patent Office recognized this and rejected the claims on the disclosures of prior art patents (Exhibit C, page 29), the most pertinent of which are the following which are here in evidence:

Steffen (Tab 13, OL. 8-A)
Turrentine (Tab 14, OL. 8-B)
Krauss (Tab 18, OL. 8-F)
Neufeldt (Tab 16, OL. 8-E)
Gazagne (Tab 15, OL. 8-C)
Olier (Tab 20, OL. 8-H)

The Patent Office, in rejecting the claims, stated (Exhibit C, pages 29 and 30):

> "The claims are further rejected as unpatentable over any of Steffen, Turrentine, Krauss or Neufeldt. Each of these patents shows a diffusion process which comprises the progressive movement of cossettes through a treatment zone having a plurality of separated treatment stages, in the sense that applicant's

process is comprised of separated stages, in both of the disclosed embodiments. Juice flows progressively through the stages in a course generally countercurrent to the cossette travel, and concurrent in each of the treatment stages. The references show both mechanical propulsion and gravity flow, sealed and unsealed. The rate of flow is not shown to be critical and whether the rate of flow of the juice be greater or less than that of the cossettes is a matter of choice which may well be left to the judgment of the operator."

In response to this rejection, Silver acquiesced therein and *cancelled all of the original claims* and substituted fourteen entirely new claims (Exhibit C, pages 32 to 39). The new claims likewise did not define the process as including "alternate downward and upward courses of cossette travel" and included both vertical machine operation, as shown in the patent, and horizontal machine operation, as in the accused Morton machine and prior art machines. These claims were also rejected (Exhibit C, pages 44 and 46) and were cancelled (Exhibit C, page 47) by Silver. Silver then submitted another entirely new set of claims (Exhibit C, pages 47 to 57 incl.) which became claims 1 to 11 of the patent in suit (Tab 11, S.A). These claims different from the previously rejected and cancelled claims in that each and every one of them defines and limits the process to one in which *each treatment stage includes "alternate downward and upward courses of cossette travel".*

Silver, in arguing that the claims so limited distinguished from and constituted invention over the prior art and that such "upward and downward courses of cossette

travel" was a material part of his invention, stated as to such limitation in the claims as follows (Exhibit C, page 58):

> "In this connection, it should be noted that the cossettes which are the material being treated vary considerably in specific gravity, to such an extent that at times they float on the juice with which they are mixed, while at other times they sink in such juice. As a result, any treatment which requires the movement of the cossettes through a horizontally disposed treatment zone cannot insure adequate and uniform extraction, as the juice-cossette contact areas of such zone are relatively small in proportion to the volumetric capacity of the zone."

Note that in such statement (stated by Silver to be correct in his testimony, R. 116, 117 and 118) Silver contends that horizontal stages (such as applicant's and prior art patents employ) would not insure adequate and uniform extraction, and from this contended that the newly submitted claims which excluded such horizontal stages were patentable over and patentably distinguished from the prior art patents cited.

Silver, on page 59 of Exhibit C, amplifies the difference in effect on extraction between his claimed "upward and downward courses of cossette travel" and the cossette travel in horizontal cells (like the accused Morton machine) by stating (Exhibit C, page 59):

> "Applicant uses the arrangement shown in Figs. 1 and 2 to provide upward and downward courses in which the juice and cossettes are so intermixed that all exposed surfaces of the cossettes are continuously and completely in contact with juice through the

entire range of the concurrent movement. Further, during said movement the juice is impelled by the cossettes and tends to drag against said surfaces to insure a substantial penetration of the juice into said surfaces.

"Particularly in the upward course, the juice is moved in opposition to gravitational influences until it reaches the elevated point of withdrawal, and in this action a substantial penetration of cossette surfaces results because of the gravitational urge. Thus, applicant attains a high degree of extraction in a relatively short treatment interval, while using gravity flow in the countercurrent circulation of juice. The operating cost of the operation is very low, while the efficiency has not been duplicated on a commercial scale by any other process."

Silver reiterated on page 59 of Exhibit C that if the machine employs a horizontal tank with a spiral type of conveyor (which the accused Morton battery employs) for movement of the cossettes in the tank, as shown in the prior patents, a uniform mixture of juice and cossettes cannot be obtained. We quote (Exhibit C, page 59):

"The arrangements shown in Turrentine and Steffen employ a horizontally disposed tank having a spiral type conveyor for movement of the cossettes. With juice in the tank and cossettes fed thereto, they may either float on the surface of the liquid or sink to the bottom, depending on their specific gravity, and thus there would not be a uniform intermixture of juice and cossettes such as applicant provides."

Silver then makes the flat admission that the claims distinguish from the prior art and are patentable because

they are limited to a process in which each stage includes upward and downward courses of cossette travel, as follows (Exhibit C, page 60):

> "The rejected claims have been cancelled and a new set of claims substituted therefor. All of the new claims are based on claim 35, *which distinguishes from the cited art practices in reciting the treatment of the cossettes at each stage in upward and downward courses and the withdrawal of the juice near the top of the upward course* to permit draining of the cossettes before they are again brought in contact with the juice." (Italics ours.)

After these statements and contentions by Silver, the claims were granted.

After formal allowance (Exhibit C, page 61), Silver added five additional claims, which are (Exhibit C, pages 62 to 66) claims 12 to 16, inclusive, of the patent in suit (Tab 11, S.A), each and every one of which include the express limitation that each "stage including alternate downward and upward courses of material travel". The patent (Tab 11, S.A) in suit then issued with all of the claims so expressly limited.

Although Silver, beginning with line 63 of the left-hand column appearing on page 2 of his patent No. 2,390,131 (Booklet of Patents, Tab 11, Silver Exhibit A) states:

> "While this is a preferred arrangement, it will be understood that the process also may be performed in cells disposed horizontally with a positive or gravity circulation of liquid employed."

it is to be observed that nowhere in this patent or in the later Silver patent does Silver disclose how his process

can be performed in a horizontal type of cell nor the details of such cell.

Furthermore, Silver, on direct examination, testified as follows concerning the development of the so-called horizontal scroll type of diffuser (Tr. 52):

"Q. I think that is a matter of no particular consequence. Well, now, when did you first undertake to develop a modified diffuser of the type you call the scroll type? A. In 1946.

Q. When in 1946? A. When I had the initial difficulty with the breakage of shafts in the Nyssa machine, which had to be kept operating, I would like to make that clear, the machine was kept operating throughout the entire campaign with exceptional operating results, in spite of mechanical difficulties.

Q. What did you do about pursuing this idea of a different type of conveyor? A. I approached the Union Sugar Company early in 1948 with a proposition that they put in two cells for experimental purposes, full sized cells to be attached to one end of our chain type diffuser, at Betteravia in order to test the action of the cossettes and diffusion possibilities of the scroll type.

Q. You stated, I think, Mr. Silver, that your first effort in the direction of producing a scroll diffuser originated in the latter part of '46 when you were having this trouble? A. Yes, that is the endeavor to.

Q. Did you do anything? A. To get something that would be a little simpler than the chain type diffuser.

Q. When did you conceive of the idea of utilizing the scroll conveyor in a diffuser? A. Oh, that had been in my thinking as a possibility all along. I had not worked out a specific design.

Q. When did you work out a specific design for the scroll type of conveyor? A. In the latter part of 1947 my ideas were consolidated and we commenced design the first part of 1948."

In this connection, it is to be noted that the application for Silver's patent No. 2,390,131 was not filed until December 4, 1945 and, consequently, it should be clear that although the scroll type cell was barely mentioned in the specification of his application and patent, he obviously was not in a position then either to describe how his process could be practiced in such a cell or the details of construction of any such cell.

Thus, it cannot be seriously questioned that Silver in order to avoid the prior art and obtain his patent (Tab 11, S.A), limited the patent claims to a vertical type machine and mechanical process in which each treatment stage included *alternate downward and upward courses of cossette travel.* This limitation was inserted into and remains in each and every claim of that patent to expressly avoid the prior art machines and processes in which the cossettes were directed through *a horizontally disposed treatment zone* just as in the accused Morton machine.

Thus, as a matter of law, as expressed in practically every circuit, including this circuit, Silver thereby did disclaim from the scope of his patent all machines and processes in which the cossettes and juice are required "to travel through" a "horizontally disposed" treatment zone. In that the accused Morton machine "requires movement of the cossettes through a horizontally disposed treatment zone", such Morton machine and its operation

were expressly excluded by Silver from the scope of his patent claims. Therefore Silver surrendered and disclaimed machines and processes such as Morton and its operation, and is now estopped from contending to the contrary, which is that his claims should be "interpreted" to include the Morton machine and its operation.

Therefore, we contend strenuously that as a matter of law the Silver patent, if valid at all, is limited to a vertical machine and process in which *each treatment stage includes alternate downward and upward courses of cossette travel,* and that Silver expressly disclaimed from his claims all processes and machines in which the treatment zone is horizontally disposed such as the accused Morton machine.

The law as applied to the facts as disclosed by the record here with reference to the disclaimer and surrendering by Silver and file wrapper estoppel.

This doctrine of not permitting a patentee to first surrender and disclaim certain processes or machines in seeking his patent and then, after obtaining the patent on that ground, attempting to broaden the scope thereof to include the processes and machines thus disclaimed and surrendered, is one of the most uniformly applied rules in patent law and has been applied by this Court and the Tenth Circuit uniformly with the remaining circuits. The following is the law on the subject:

> *Sutter v. Robinson* (1886), 119 U.S. 530 (p. 541):
> "* * * is not at liberty now to insist upon a construction of his patent *which will include what he was expressly required to abandon* and disavow as a condition of the grant."

Schriber-Schroth Co. v. Cleveland Trust Co. (1940), 311 U.S. 211 (p. 218):

"Where the patentee in the course of his application in the patent office has, by amendment, cancelled or surrendered claims, those which are allowed are to be read in the light of those abandoned and an abandoned claim *cannot* be revived and restored to the patent by reading it by construction into the claims which are allowed."

Texas Co. v. Anderson-Prichard Refining Corporation, 122 Fed. (2d) 829, 841, 842 (C.C.A. 10):

"Where an applicant for a patent acquiesces in the rejection of claims, and amends the claims or substitutes other claims to meet the objection of the Patent Office, he will be deemed to have surrendered and disclaimed what he thus conceded and is bound by the limitations imposed, and it is immaterial whether the rejection was right or wrong."

Jensen-Salsbery Laboratories, Inc. v. O. M. Franklin Blackley Serum Co., 72 Fed. (2d) 15, 18 (C.C.A. 10):

"* * * limitations imposed by the applicant, specially those added by amendment after a claim has been rejected, must be construed against the inventor and regarded as disclaimers; and that the patentee is thereafter estopped to claim the benefit of the rejected claim or such a construction of this amended claim as would be equivalent thereto."

The above case was cited with approval in *Gasoline Products Co. v. Champlin Refining Co.,* 86 Fed. (2d) 552, 561 (C.C.A. 10—November 18, 1936).

Sager v. Glove Corporation, 118 Fed. (2d) 873, 874 (C.C.A. 7):

"* * * It is at once apparent that the plaintiff is in the unfortunate position of attempting, at the same time, to ride two horses traveling in opposite directions. The argument employed before the Examiner to obtain his patent—i.e., that the disclosure of a glove made from a single piece of material was a patentable improvement, defeats his contention of infringement by defendant's glove made from two pieces of material."

See, also:

Tschappat et al. v. Hinderliter Tool Co., 98 Fed. (2d) 994, 999 (C.C.A. 10);

Oliver United Filters, Inc. v. Eimco Corporation, et al., 91 Fed. (2d) 345, 350 (C.C.A. 10);

Fried, Krupp Aktien-Gesselschaft v. Midvale Steel Co., 191 Fed. 588, 610;

Lanova Corporation, et al. v. National Supply Co., 116 Fed. (2d) 235, 238 (C.C.A. 3);

Lily-Tulip Cup Corporation, et al. v. American Lace Paper Co., 76 Fed. (2d) 130, 131 (C.C.A. 2).

Therefore, we contend that the position of the Court of Appeals on this point in the instant case is in conflict with the decisions of this Court and with its own prior decisions on the same point, and that in view of the evidence and the law, the Court below should have found and this Court should find that Silver is now estopped from contending for a construction of the claims of his patents of sufficient scope as would include the accused Morton battery and its operation.

We further contend that if those claims "read" on the Morton battery and its operation, then they likewise and to the same degree can be "read" on the prior art patents cited by the Patent Office in rejecting the claims not limited to "each stage including alternate downward and upward courses of material travel", in evidence as exhibits Book 1, Tab 13, OL. 8-A, Tab 14, OL. 8-B, Tab 18, OL. 8-F, Tab 16, OL. 8-E, Tab. 15, OL. 8-C, Tab 20, OL. 8-H, and are invalid as being completely anticipated thereby.

Detailed comparisons of the claims of the Silver patents with the Krauss and Rak patents are set forth in Appendix I hereto.

2. To impart novelty to Silver's process and claims, the Court below reached to the specifications.

The Court of Appeals in its decision, in analyzing Silver's contribution to the art, stated as follows (Tr. 362, 98 USPQ 240, pages 243, 244):

> "We come then to the question of what Silver has contributed to the art that constitutes patentable inventions. He first undertook to analyze and discover why the countercurrent-concurrent type of diffusion system had not been successful. The claimed patentability lies in the method or process by which the beet stock is made to move in the alternate downward and upward course of travel to cause an enforced submergence in the countercurrent of the juice in a manner to effect an alternate washing, draining, and transfer from one cell to the next without mutilating the cossettes as they move through the course of treatment. The application of force or pressure to the cossettes is avoided so that they remain unmutilated

and in good condition for diffusion activity and thereby retain most of the impurities. In this draining process the juice of high concentration, including the diffusion resistant surface films found on the cossettes, is removed and it returns to the cell of relatively high juice concentration from which it was taken. The district court found that the enforced submergence of the cossettes from above the diffusion liquid with a downward and upward movement while submerged, followed by a drainage of the liquid in that cell before transfer to the next cell made Silver's machine different from those disclosed by the prior art."

Obviously the mere analysis of a problem is not the subject matter of patent protection. It is only the solution to such problem which may or may not be subject to such patent protection.

If the claimed patentable novelty as found by the Court "lies in the method or process by which the beet stock is made to move in the alternate downward and upward course of travel *to cause an enforced submergence* in the countercurrent of the juice in a manner to effect an alternate washing, draining and transfer from one cell to the next *without mutilating the cossettes* as they move through the course of treatment," then the claims are defective, for nowhere in any of the claims of either of Silver's patents is there a limitation concerning *enforced* submergence or mutilation. In this regard, by way of example, claim 1 of the Silver patent 2,390,131 defines Silver's process as follows:

"* * * feeding cossettes into one end of said confined zone, flowing juice in a progressive movement through

the succession of treatment stages in a separate course generally countercurrent to the cossette travel, moving said juice into the respective treatment stages at a point intermediate the ends of the downward course, directing the juice so intermixed with cossettes through a substantial extent of said treatment stage concurrent with the travel of the cossettes, withdrawing said juice from the succeeding upward course at a point near the top thereof to permit draining of the cossettes before they are again brought in contact with the juice at the intermediate position in the downward course of the next treatment stage, and discharging the juice and cossettes separately from the treatment."

It will be here observed that there is no limitation in this claim requiring enforced submergence nor does it contain any requirement that the process be done without the mutilation of the cossettes. These factors are found only in the specifications of Silver's patents and Silver's testimony concerning his process and equipment.

The Court of Appeals, in making its above quoted analysis of Silver's contribution to the art, refers to Findings 14 through 17 of the trial court, these findings appearing as a footnote (at Tr. 362 and 363, page 244 of 98 USPQ 240). Finding 14 is as follows:

"14. Silver, in making his inventions, combined with the countercurrent-concurrent flow system the following major features:

"First: The enforced submergence of the cossettes by causing them to pass from a point above the level of the juice to a point below the level of the juice by giving the cossettes a downward and upward course of movement with respect to the juice level; and

> "Second: A substantial separation of the cossettes and their associated liquid at the time the cossettes are transferred from one cell to the next without the utilization of such force as would mash or damage the cossettes or interfere with the diffusion activity."

While it may be that Silver, in developing his diffuser, actually used the assemblage of the features set forth in these findings, this does not give him the right now to read these features into his claims.

As this Court's cases have held since *White v. Dunbar* (1886), 119 U.S. 47, 51-52, and *McClain v. Ortmayer* (1891), 141 U.S. 419, 423-4, "it is the claims of the patent that measure the grant, and while they may be limited, they may not be enlarged by the specifications".

The same criticism holds true for Findings of Fact 15, 16 and 17 apparently relied upon by the Court in determining the "claimed patentability". The above quoted passage from the opinion of the Court below has been selected and discussed in preference to other passages of the opinion for the reason that this passage seems to be the only one which refers at all to Silver's "claimed patentability". The opinion of the Court of Appeals follows rather closely the opinion of the trial Court and in neither opinion is there an attempt to analyze the claims of the two Silver patents or to make a comparison thereof with the Oliver-Morton diffuser or with the prior art diffusers. As a result of carefully studying both opinions, it appears that the conclusions arrived at by both the trial Court and the Court of Appeals with respect to the scope of Silver's monopoly, the question of validity and the question of infringement were arrived at without

making any analysis of the claims of the Silver patents but rather by the specifications thereof and the testimony of Silver concerning the problems involved in the diffusion of sugar beets and the alleged commercial success of the Silver chain type battery.

As stated by this Court in *McClain v. Ortmayer* above cited, 12 S. Ct. 76, at page 77:

> "• • • While the patentee may have been unfortunate in the language he has chosen to express his actual invention, and may have been entitled to a broader claim, we are not at liberty, without running counter to the entire current of authority in this court, to construe such claims to include more than their language fairly imports. Nothing is better settled in the law of patents than that the patentee may claim the whole or only a part of his invention, and that, if he only describe and claim a part, he is presumed to have abandoned the residue to the public. The object of the patent law in requiring the patentee to 'particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery' is not only to secure to him all to which he is entitled, but to apprise the public of what is still open to them. The claim is the measure of his right to relief, and, while the specification may be referred to to limit the claim, it can never be made available to expand it."

But that is precisely what the Court below has done. It has reached to the specification to enlarge the grant. The result is that the prior art patents above discussed have been swept into the orbit of the two Silver patents. Thus the prior art structures and processes which by law were

public property have been included within the monopoly accorded to Silver.

The Court below has misapplied the doctrine of equivalents. Carried to its inescapable conclusion, the Court's doctrine will sweep into the patent monopoly, just as it has here, much that is public property.

Whatever may be the proper scope of the rule of equivalents, it never should be permitted to convert a specification into a claim, otherwise the scope of the patent of the future will differ much from that of the past. So profound would be the consequences of such a doctrine that no Court should give it sanction. If the statute, 35 U.S.C. 112, which requires the inventor to "particularly point out and distinctly *claim*" his invention is to be changed, that is the proper work for Congress.

With regard to findings of fact and conclusions of law, it is submitted that neither of them could have been of very much help to the Court of Appeals. These findings and conclusions were made by opposing counsel on behalf of the trial Court after the trial Court had made its memorandum opinion and in compliance with the instructions therein contained. As stated by the Court of Appeals in *Process Engineers, Inc. v. Container Corporation of America*, 70 F. (2d) 487, page 489 (C.C.A. 7), March 19, 1934:

> "It is urged that the court's findings should be sustained because supported by some evidence. The weakness of this argument lies in the fact that the findings were not made by the court, but are the work of industrious counsel who combined his argument and a partisan and unfair statement of facts into one

and called it, 'Findings of Fact.' It is difficult to distinguish these findings from the brief of counsel for appellee.

"Such so-called findings do not help an appellate court. They reflect the views of counsel who submitted them and detract from the force and effect which are ordinarily given to findings made by the trial judge. When the abuse is aggravated (and the objectionable practice is growing), the assistance to the appellate court, which findings when carefully made by the trial court afford, is lost, and it becomes necessary for us to study the evidence as though no findings had been made by the District Court."

3. The claims of the Silver patents do not define any new inventions irrespective of any file wrapper estoppel.

The disclosures of the two Silver patents have been discussed in some detail in the Petition beginning at page 5 and the claims of the Silver patent (Silver Exhibit B, Tab 12) are compared with the Krauss and Rak in Appendix I hereto. In Appendix II the Neufeldt patent has been further analyzed in relation to the Morton battery and Appendix IV contains a further analysis of the Dobler patent.

As a result of these analyses, we contend that what was done by Mr. Silver, as disclosed and claimed in his patents, did not meet the standards for invention heretofore set by our Courts as patentable under the law, and that what Mr. Silver did amounted to nothing more than unpatentable mechanical skill.

The law has always required that to sustain a patent, it must disclose more than mechanical skill. *It must disclose an invention.* As tested by the following authorities,

it will be clear that Mr. Silver did not produce a patentable invention.

The last case on this point is by the Supreme Court, which was decided December 4, 1950, and is *The Great Atlantic and Pacific Tea Company v. Supermarket Equipment Corporation,* 340 U.S. 147, 71 S. Ct. 127. In a concurring opinion Justice Douglas stated as follows as to the necessity of invention in a patent:

> "Every patent is the grant of a privilege of exacting tolls from the public. The Framers plainly did not want those monopolies freely granted. The invention to justify a patent had to serve the end of science —to push back the frontiers of chemistry, physics, and the like; to make a distinctive contribution to scientific knowledge. * * *"

Picard v. United Aircraft Corporation (C.C.A. 2, 1942), 128 Fed. (2d) 632, 636:

> "* * * Unless we are to mistake for invention the slow but inevitable progress of an industry through trial and error, and confer a monopoly merely upon the exercise of persistent and intelligent search for improvement, there was no invention in this. * * *"

See, also:

Cuno Engineering Corporation v. Automatic Devices Corporation (Nov. 10, 1941), 314 U.S. 84;

Mandel Bros., Inc. v. Wallace (Nov. 8, 1948), 69 S. Ct. 73, 75.

Thus, we strenuously contend that all Mr. Silver did was to provide an apparatus which differed from the prior art in minor constructional details, and that he did not invent or originate any new process and that the

process claims are merely statements of the functioning of his machine. This is borne out by the uncontradicted testimony of Mr. Shafor (Tr. 190-191).[7]

4. The process claims in suits 7, 9, 10 and 11 of the Silver patent 2,468,720 (Tab 12, Silver Exhibit B) are invalid in that those claims do not define an invention different and patentably distinguishable from the process claimed in the earlier issued patent.

Under this same heading in the Petition beginning at page 22 the facts pertinent to this point have been discussed.

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[7] "Q. * * * Now, in the process of diffusion, is there any difference between the process as carried out in the Morton Diffuser of diffusion that there is in a Robert Battery? A. No.

Q. What is the comparison between the two as far as actual process of diffusion is concerned? A. Robert's Battery is essentially a counter concurrent battery from beginning to end. The only point is that we in the Robert's Battery have no way of transferring cossettes from one cell to the next. Therefore, we manually dump them and get rid of them as soon as they are exhausted. In the two continuous batteries I have seen here and studied, we substitute a mechanical means which will do the transferring and end the manual labor that we use to get them out of the system on the Robert's Battery.

Q. Now, then, on the Robert's Battery, it is a fact, isn't it, that the fresh water that is entered into the battery in the process is first passed through the cossettes most depleted? A. Yes.

Q. And then progressively as that juice picks up sugar, it is progressively passed through cells of cossettes of lesser depletion? A. That is right.

Q. And is that essentially different or essentially the same as the Morton, except for a continuous mechanical movement? A. Essentially the same.

Q. Is there any step in the Morton picture, by the Morton machine, which varies this formula, old formula of sugar diffusion which you have stated? A. No.

Q. Would you state whether or not in the Morton Battery, whether the cossettes are caused to move up and down or just agitated in any other direction, would make any difference as far as diffusion is concerned, or the time rate of diffusion? A. No difference. Relative velocity is the thing.

Q. Relative movement between the cossettes and juice? A. That is right, surrounding juice."

Silver's first patent (Tab 11, S.A) issued on December 4, 1945, and his second patent (Tab 12, S.A) issued almost four years later, to-wit, April 26, 1949, on an application filed September 28, 1945 (three months before the first patent issued), so that for approximately three months' time the applications were copending.

However, the law is manifestly clear that unless the process claims of the second Silver patent define an invention different and patentably distinguishable from the processes claimed and disclosed in the first issued Silver patent, then the process claims of the second patent are totally invalid, because this would constitute an unlawful extension of the monopoly granted by the first patent, and which is commonly called by the Courts "double patenting".

The authorities are clear on this point and the double patenting rule and reasons therefor are clearly set forth in the following authorities:

In re Thompson (C.C.P.A. Dec. 19, 1932), 62 Fed. (2d) 90:

"Much of appellant's argument is devoted to the contention that, since his applications were copending, applicant's prior process patent is 'not a legal reference' against his apparatus application, and numerous authorities are cited which are claimed to support the argument, such as In re Lawrence Byck, 48 F. (2d) 665, 18 C.C.P.A. 1208; Miller v. Eagle Mfg. Co., 151 U.S. 186, 14 S.Ct. 310, 315, 38 L.Ed. 121; Kaplan v. Robertson (D.C.) 50 F. (2d) 617; and others.

"The purport of the holdings in all those cases, sought to be made here applicable, is expressed, according to appellant's brief, in the Miller Case, supra,

in the following language: '* * * where the second patent covers matters described in the prior patent, essentially distinct and separable from the invention covered thereby, and claims made thereunder, its validity may be sustained.'

"That this principle of law is sound and that it is generally followed by the courts is, we think, beyond dispute, provided always that the claims of the second patent or application show an inventive advance over the claims already granted in the first patent. The rule announced by the Court of Appeals of the District of Columbia in the case of In re Isherwood, 46 App. D. C. 507, has been referred to and applied by this court in many cases. In re Fischer, 57 F.(2d) 369, 19 C.C.P.A. 1077, and cases cited therein. A declaration of the court in the Isherwood Case, supra, reads: 'The patentability of the present claims may be decided on appellant's patent by the same rules which would be applied to test their anticipation by a patent to another.'

"While, therefore, appellant's process patent may not be a 'legal reference' in the technical sense that a patent timely granted to another would be, the same rule is to be followed, and, if appellant has been already granted a process patent which legitimately covers the subject-matter of the claims at issue, he is not, under the authorities, entitled to a second patent thereon, even though it be expressed in terms of apparatus claims.

"There are many cases in which patents issue upon separate applications for both a process and an apparatus for carrying out the process, but in all such cases the claims must be for separate and distinct inventions. If all that is inventive be expressed in either the process application or the apparatus ap-

plication, then a grant of two patents is not proper, since the result would be double patenting. In re Fischer, supra.

"The sole question, therefore, as to appellant's claims 5 and 7, is whether they present anything inventive over his patent claims. * * *"

General Motors Corporation, et al. v. Rubsam Corporation, et al. (C.C.A. 6, 1933), 65 Fed. (2d) 217:

"* * * As was held in Saranac Automatic Machine Corp. v. Wirebounds Patents Co., 282 U. S. 704, 51 S. Ct. 232, 75 L.Ed. 634, the monopoly of an earlier patent may not be extended by subsequent patents which disclose the invention of the earlier patent, and, in addition, merely mechanical improvements which do not in themselves involve invention."

In re Peiler (C.C.P.A. April 4, 1932), 56 Fed. (2d) 878:

"The appellant, having disclosed or claimed no matter patentably distinct from that claimed in his existing patent, cannot have a second patent upon the same invention. In re Robinson, 48 F.(2d) 931, 18 C.C.P.A. 1271; In re Laughlin, 48 F.(2d) 921, 18 C.C.P.A. 1239; In re Byck, 48 F.(2d) 665, 18 C.C.P.A. 1208; In re Hargraves, 53 F.(2d) 900, 19 C.C.P.A. (Patent)—."

See, also:

In re Fischer (C.C.P.A. April 4, 1932), 57 Fed. (2d) 369;

In re Gollmar (C.C.P.A. Dec. 23, 1933), 67 Fed. (2d) 907;

Application of Ward (C.C.P.A. July 3, 1945), 150 Fed. (2d) 436.

One of the underlying reasons is that whatever the patentee did not claim in his first patent, but which was disclosed therein, is dedicated to the public. The early basis of the rule of the above cases is the leading case of *Miller v. Eagle Mfg.*, 151 U.S. 186, 198 (1894), 38 L. Ed. 121, 14 S. Ct. 310, wherein the Court stated as follows:

> "In Odiorne v. Nail Factory, 2 Mason, 28, the reason for the rule * * * was stated to be that * * * a new and later patent for the same invention would operate to extend or prolong the monopoly beyond the period allowed by law."

When the process claims 7, 9, 10 and 11 of the second Silver patent are compared with the disclosure and claims of the first Silver patent, it is obvious, first, that the two are directed to exactly the same process. Second, that the process claims of the second Silver patent define nothing different or anything which constitutes an invention over the process claims issued in the first Silver patent. The difference between the two sets of process claims of both patents was succinctly stated by counsel to the District Court, and we adopt such a statement as follows:

> "Claim 7 (of the second patent), which is typical of the process claims in this patent, is also of interest, but it will not be set forth in full here because it will be simpler to consider it as including all of the steps of claim 1 of the first patent, plus the improvement step of—
>
> " 'subjecting said liquid to a screening action at a point adjacent to but below the liquid level before the liquid passes from said treatment stage to the next stage along its countercurrent course.'
>
> "In other words, this claim is a process claim covering the same steps as those constituting the process

of the first patent, except that it is limited to the new and improved feature of draining below the liquid level, as illustrated in Figure 5 of the patent."

Therefore, obviously, the only difference between the processes claimed in the two patents is the point at which the liquid is screened before it discharges from one cell to another. This difference is not a difference in substance but merely a difference in words, as Mr. Silver so aptly pointed out in his testimony at Tr. 105-106, where he testified on this exact point as follows:

"Q. There is practically no difference in point of elevation of the discharge of the juice from a cell in the first and second patents, is there? A. That is right.

Q. The only difference is that in one you get a larger screen area to effect screening? A. In the second.

Q. In the second yes, and in the second patent you have foranimous trays which aids in the drainage? A. That is right.

Q. And that is the only difference between the first patent and the second patent, material difference? A. The only material difference."

In view of that testimony, it cannot be seriously contended that the process claims of the second patent can be held as patentably distinguishing from the process disclosed in and claimed by the first patent. It is true that in claim 11, for example, there is an additional limitation over claim 7, which adds to claim 7 that the liquid moves at a different rate than the divided material along the course of concurrent movement of said materials. There is no proof in the record that this is the case in the

Morton battery, but even if it is so, this step added nothing patentable to the claims as was so aptly expressed by the Patent Office examiner (Exhibit D, page 92):

> "Since the rate of flow is not critical the recitation in claim 45 of 'a different rate' does not constitute a patentable limitation."

We strenuously urge that the process claims of the second Silver patent are invalid and non-infringed by the Morton battery for the reasons above set forth.

We also urge that if the process claims of the second patent in suit can be interpreted so as to include the Morton battery and its functions, then they include to the same extent the batteries and processes of the prior art and are invalid, as set forth herein in connection with the process claims of the first Silver patent. To hold otherwise would be to permit Silver at this late date to recapture as a monopoly part of the public domain dedicated to the public by the prior art patents.

5. The Court of Appeals improperly held Silver's claims to be valid combination claims.

Pertinent to this point, the Court below in its opinion, 98 USPQ 240, at page 243, stated as follows:

> "He (Silver) readily concedes that all the elements of his combination were known to the art long prior to his inventions but contends that his combination is new. The law is that a combination of old elements is patentable if it accomplished either a new or an old result, in a more facile, economical and efficient way in a particular environment which presented peculiar and difficult problems."

This statement of the law is too broad for it disregards the requirement that to be patentable, the assemblage of elements in question, in addition to constituting a combination of elements rather than an aggregation thereof, must be a new combination. Negatively expressed, the combination to be patentable must not be an *exhausted* combination.

As pointed out in the Petition, this Court in *Bassick Mfg. Co. v. R. M. Hollingshead Co.*, 56 S. Ct. 787, page 791, made the following statement:

> "* * * Secondly, he invented an improved form of coupler to be attached to the end of the hose leading from the pump to the fitting. Instead of patenting this, as he did the pin fitting, he claimed a combination of pump, hose-coupler, and pin fitting, and embodied in the combination his improved form of coupler. No. 1,307,734, the patent in suit; claims 1-6, 8, and 10. He further claimed the combination between his patented pin fitting and any form of grease gun whether that claimed in his patent or unpatented and old in the art. Claims 14 and 15. *The question then is whether, by this method, the patentee, by improving one element of an old combination whose construction and operation is otherwise unchanged, may, in effect, repatent the old combination by reclaiming it with the improved element substituted for the old element. That this cannot be done is shown by numerous cases in this and other federal courts.*"

As abundantly appears from the facts recited in the petition and the analysis of the prior art structures made in the Appendix I hereto, there was nothing new at the time that Silver made his alleged inventions in a counter-

current-concurrent diffusing system involving the use of a diffusing battery including a plurality of contiguous cells and wherein each cell is provided with means for moving a mixture of cossettes and juice from one end to the other, with means at the discharge end of the cell for effecting the separation of the juice and cossettes, with means for transferring the drained cossettes to the intake end of the next succeeding cell and with means for delivering the juice from the discharge end of the cell in question to the intake end of the preceding cell. The prior art discloses various methods of effecting the separation of the cossettes and juice and various methods for transferring these components respectively into the intake end of the succeeding cell and the intake end of the preceding cell. The fact that Silver may have disclosed a different type of transfer mechanism and a different type of draining mechanism in no way alters the combination. It is still the same old combination disclosed in the prior art references and the selfsame process of diffusion is effected therein. If Silver has done anything, it is to make an improvement only in isolated elements of the combination. It is, therefore, submitted that Silver, by virtue of these alleged improved elements, has attempted to repatent the combinations shown to be exhausted by the prior art references and that the Court of Appeals, in holding that Silver's patents cover a new combination, has done so in direct conflict with the decisions of this Court and its own decisions.

The Court below, in supporting its statement of the law,

> "The law is that a combination of old elements is patentable if it accomplishes either a new or an old

> result, 'in a more facile, economical and efficient way in the particular environment which presented peculiar and difficult problems.' " (Tr. 361-2, USPQ 240, p. 243)

cites a number of cases in support thereof. However, a careful review of these cases shows that they are not dealing with the question of exhausted combinations but rather with a situation wherein it was assumed that either old or new elements had been brought together into a *new combination.* The last case cited by the Court, *A & P Tea Co. v. Supermarket Corp.,* 340 U.S. 147, as a matter of fact deals with the distinction between combinations and aggregations but not with exhausted combinations. Our contention here is not that the elements of the Silver diffuser constitute an aggregation of elements, each of which performs its old function and which together do not coact to produce a new and unitary result, but rather that the combination into which these elements have been brought is an old or exhausted combination.

6. The Morton machine and process does not infringe any of the claims of either of the Silver patents.

The facts covering this point have been set forth in the Petition beginning with page 24 and a detailed analysis and comparison of the Morton structure and process with those of the prior art references as well as with the Silver claims appears in the appendix hereto.

It is submitted that this analysis and comparison amply support petitioner's position that the Silver claims cannot be read on the Morton structure and process but if this Court holds that they can, then by the same token and

using the same yardstick of equivalents, Silver's claims are readable on the prior art references and are, therefore, anticipated and should be held invalid.

7. Prior art patents are good as anticipations even though never put into commercial use.

The careful reading of the opinion of the Court of Appeals and that of the trial Court indicates that both Courts felt loathe to use the prior art patents for the purpose of anticipating the claims of the Silver patents largely for the reason that none of these prior art patents had gone into commercial success.

It is submitted that prior art patents, regardless of whether or not they have gone into commercial success, should always be used where pertinent for the purpose of anticipation. As stated by Judge Learned Hand, speaking for the Court of Appeals in *In re Frank B. Killian & Co. v. Allied Latex Corp.*, 89 USPQ 219, at page 221:

> "* * * The phrase, paper patent,' is a mere bit of rhetoric, usually employed as a makeweight by judges who wish to support the patent in suit, but are embarrassed by a reference, of an escape from which they are not too confident. It is a meaningless platitude."

While neither the Court of Appeals nor the trial Court in their decisions used the phrase "paper patent," both Courts appear to have considered the prior art as falling within this category. Most of the prior art patents heretofore discussed have been within the public domain for some years and the effect of the judgment of the lower Court is to regrant to Silver the disclosures therein contained.

8. The commercial success of the machine shown in the patents is unimpressive in this record and even if the contrary were true, commercial success cannot be substituted for invention.

The pertinent facts concerning the commercial success of the Silver machine and process have been set forth in the Petition beginning with page 43.

Silver sold a total of 14 chain type diffusers between 1942 and 1948 and thereafter sold only his scroll type which was developed in 1948. As set forth in the Petition, Mr. Silver testified that as a result of having developed his scroll type of cell, he saw no reason why he should sell any more of the chain type. This limited number of sales in a fairly large and important industry during the period of six years, coupled with Mr. Silver's statement that after the development of his scroll type of cell he would no longer sell the chain type, hardly supports Mr. Silver's contention for great commercial success. Here we would again like to call the Court's attention to the fact that contrary to the suggestion of the trial Court and the Court of Appeals, the evidence amply shows that Mr. Morton developed his horizontal scroll type of cell long prior to the development by Mr. Silver of the same type of cell. It may be that Mr. Morton had some early knowledge concerning Mr. Silver's chain type of battery, but that would hardly justify the inference made by the Court below to the effect that Mr. Morton's unit was developed only after knowledge of Mr. Silver's scroll type of cell.

In any event, even if the record is considered as proving commercial success, it has been widely held that com-

mercial success cannot be substituted for invention. See the following cases:

Shaffer v. Armer, et al. (C.A. 10, Aug. 11, 1950), 86 USPQ 427, 431:

"• • • But no amount of commercial success can bridge the gap between mechanical skill and invention. Dow Chemical Co. v. Halliburton Co., 324 U.S. 320, 330 (64 USPQ 412, 416); Jungerson v. Ostby and Barton Co., 335 U.S. 560, 567 (80 USPQ 32, 24-35)."

The writ should issue.

Dated, San Francisco, California,
October 12, 1953.

Respectfully submitted,
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